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**DID 9/11 WORSEN THE JOB  
PROSPECTS OF HISPANIC IMMIGRANTS?**

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## Did 9/11 Worsen the Job Prospects of Hispanic Immigrants?\*

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**Abstract:** This paper examines whether the economic aftermath of 9/11 had an adverse impact on the labor market outcomes of male immigrants from Latin America, who compose the bulk of undocumented foreign-born workers in the U.S. The crackdown on use of fraudulent Social Security numbers, increased requirements for government-issued identification, and other changes associated with greater focus on national security likely lowered the demand for foreign-born workers—particularly the undocumented—relative to natives after 9/11. The relative decline in demand for such workers could have negatively affected employment, hours worked, and earnings. Using Current Population Survey data and a difference-in-difference estimation technique, we find a negative impact after 9/11 on earnings and hours worked among recent male Hispanic immigrants vis-à-vis natives and a negative effect on employment, hours worked, and earnings vis-à-vis Hispanic immigrants who had been in the U.S. longer.

**JEL classification:** J61

**Key words:** 9/11, September 11, immigrants, employment, wages

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\* Corresponding author: Orrenius. The views expressed here are those of the authors and do not necessarily reflect those of the Federal Reserve Bank of Dallas or the Federal Reserve System. The authors thank Julie Hotchkiss and seminar participants at Baylor University for helpful comments.

## **Did 9/11 Worsen the Job Prospects of Hispanic Immigrants?**

The tragic events of 9/11 made national security a priority. Numerous reforms were enacted to offer greater protection from foreign enemies both within the nation and across the world. The large illegal immigrant population—estimated at more than 8 million at that time—came under heightened scrutiny as observers began to worry that terrorists could be hiding within it. As a result, laws passed in the wake of 9/11 included a number of changes that affected undocumented immigrants and many legal immigrants as well, not just possible terrorists. Many states implemented restrictions on driver's licenses to prevent issuance of licenses and state identification cards to undocumented immigrants; enforcement of immigration laws was broadened to include state and local police officers; identification requirements were increased for new banking customers; the INS resurrected the address change notification rule for non-citizens; and immigration authorities were given greater powers to detain non-citizens without judicial review (Swarns 2003).

Immigration proponents and Hispanic interest groups claimed that rather than catch terrorists, these changes harmed Latino workers (Waslin 2003). For example, the effects of a federal crackdown on airport security, which was widely reported in the media, hurt immigrant workers, many of them Hispanic. In 2002, the INS launched "Operation Tarmac," a series of large-scale raids at airports that resulted in about 1200 undocumented workers being arrested, most of them Hispanic (Ashcroft 2003; Fazlollah 2003). The airport crackdowns rooted out over 4,000 undocumented workers (Porter 2003). Many more undocumented workers likely quit on their own initiative for fear of being discovered and deported. Hundreds of legal Hispanic (and

Asian) immigrant baggage screeners were also fired following the passage of a law requiring that all airport baggage screeners be U.S. citizens (Swarns 2003).

One of the most far-reaching government actions following 9/11 was the Social Security Administration's (SSA) "no-match" letter program. Throughout 2002, the SSA sent out an unprecedented number of so-called "no match" letters to employers with workers whose Social Security numbers (SSN) were invalid (had never been issued) or did not match the name on SSA's records. This action was not intended to be a form of immigration enforcement but may have been quite effective as such and affected large numbers of Hispanic immigrants. The SSA sent no-match letters to approximately 950,000 employers, each listing up to 500 Social Security numbers that did not match SSA's records (National Immigration Law Center 2003).<sup>1</sup>

Employers fired thousands of Hispanic and other workers identified in no-match letters, assuming they were undocumented immigrants. In addition, many workers identified in the letters quit their jobs out of concern that immigration authorities would follow up on the letters by raiding their workplace (Mehta, Nik, and Hincapie 2003). Up to 100,000 workers—both documented and undocumented—may have lost jobs as a result of the letters (Sheridan 2002).

In this paper, we investigate whether the post-9/11 changes discussed above resulted in worse employment and earnings outcomes for a group that contains many undocumented immigrants: low-skilled male recent immigrants from Latin America. We focus on immigrants from Latin America because the vast majority of the undocumented are from that region. Estimates indicate that, as of 2000, Mexico accounted for about 69 percent of the foreign-born population illegally present in the United States. El Salvador, Guatemala, Colombia, and

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<sup>1</sup>Authorized workers may also generate no-match letters because a simple clerical error, the misspelling of a name, or other such mistakes can generate a mismatch between a SSN and the corresponding name. However, the corrections rate following the no-match letter process is low, with fewer than 2 percent of records corrected, suggesting that the majority of cases in the SSA's no-match letter program are unauthorized workers.

Honduras rounded out the top five source countries for illegal aliens. Latin American countries accounted for at least 80 percent of undocumented immigrants (INS 2003; Passel, Capps, and Fix 2004). Further, over half of Mexican immigrants present in the U.S. were undocumented as of 2004, including at least 80 percent of those who entered during the 1990s and early 2000s (Passel 2004, 2005a). Although an increasing number of illegal aliens are children or female, the typical undocumented immigrant is a man aged 18 to 39 (Passel 2005a).

Many things changed after 9/11, not just the national security environment. The events of 9/11 may have had a direct effect on the labor market over and above the impact of the recession that was already underway. The business cycle complicates isolating the effect of national security initiatives on the employment and earnings of undocumented immigrants following 9/11. Studies suggest that the uncertainty associated with the political and macroeconomic environment after 9/11 may have kept employers from hiring, contributing to the jobless recovery in 2002 (e.g., Groshen and Potter 2003). The events of 9/11 had a particularly adverse effect on hospitality and travel-related industries, which may have led to a disproportionately negative impact on Hispanic immigrants given their overrepresentation in those industries (Dillon 2001). However, once hiring in the general economy picked up, the job growth of foreign-born workers recovered before that of natives, suggesting that macroeconomic conditions did not disproportionately harm immigrant workers. Moreover, Hotchkiss and Pavlova (2004) find that average hours worked among the employed as a whole did not decline after 9/11 and in fact appear to have increased after controlling for the weak labor market.

This study follows the approach of Kaushal, Kaestner, and Reimers (2004), who estimate the impact of 9/11 on the employment and earnings of first- and second-generation Arab and Muslim immigrants. Kaushal et al. use a difference-in-differences estimation technique to

measure the change in labor market outcomes of Arabs and Muslims relative to two comparison groups, other non-Latin American immigrants and U.S. natives. They argue that discrimination against Arabs and Muslims, fueled by the events of 9/11, should have led to worse job prospects for that population. They find that 9/11 was associated with a statistically significant decline in the earnings of Arab and Muslim men but had no impact on their employment or hours worked.

We find similar results among Hispanic immigrants, although we also find evidence of negative effects on employment and hours. Using a similar difference-in-differences regression analysis, we compare employment, hours worked, and hourly and weekly earnings of low-skilled recent Hispanic immigrants to several comparison groups. We find that while Hispanic immigrants who had been in the U.S. for at least 5 years experienced employment and earnings gains relative to white non-Hispanic natives during the post-9/11 period, more recent immigrants did not. In addition to relative declines in employment and hours, average hourly earnings among recent Hispanic immigrants fell by about 5 percent after 9/11 compared with Hispanic immigrants who had been present in the U.S. longer. Our results thus suggest that national security measures had negative economic repercussions for recent Hispanic immigrants in relative terms. While a relative worsening of working conditions within the U.S. is unlikely to deter future undocumented immigration as long as overall conditions improve, it may result in less wage assimilation and greater earnings inequality. In other words, stiffer security measures in the absence of immigration reform may have few benefits and some unintended costs.

### **Post-9/11 Changes in the Market for Undocumented Workers**

The terrorist attacks of September 11<sup>th</sup> were followed by a series of changes that likely affected both the demand and supply of undocumented labor. Although none of the 19 terrorists

had entered U.S. illegally (four had overstayed their visas), policymakers quickly recognized that a population of at least 8 million undocumented immigrants represented a possible threat to national security and implemented changes that likely squelched such workers' job prospects. For employers, knowingly hiring undocumented workers has been illegal and punishable by civil and criminal penalties since the Immigration Reform and Control Act (IRCA) of 1986. Although this "employer sanctions" provision of IRCA is rarely enforced, 9/11 likely heightened employers' concerns that the government would launch a crackdown. Reinforcing this belief was the 2002 crackdown by the SSA on misuse of Social Security numbers discussed above, which was at that time the largest review of mismatched numbers since the beginning of the no-match letter program in 1994. Well-reported cases of INS lawsuits and raids (which primarily captured undocumented Hispanic workers) occurred at Tyson Chicken and Wal-Mart in late 2001 and 2003, respectively. However, despite these efforts to crack down on demand for undocumented workers, the employer sanctions caseload actually fell between 2001 and 2003 as law enforcement was directed at more specific targets, such as interviewing thousands, and detaining and deporting hundreds, of Muslim and Arab men.

Media reports highlighted instances of undocumented workers, most of them Hispanic, being fired and replaced by workers with legal permission to work after 9/11. Undocumented male workers typically have no access to the public safety net, such as unemployment insurance, forcing them to work at the best job available or soon leave the U.S. Their extremely high (about 96 percent) labor force participation rate attests to the importance of work among this population (Passel et al. 2004). After 9/11, undocumented men may have quit or been fired from higher-paying jobs and faced a choice between accepting lower wages from employers still willing to hire them or leaving the country. Many workers who left jobs because of SSA no-match letters

simply moved on to other employers, sometimes in the underground economy (Sheridan 2002). This suggests that 9/11 may have had a larger effect on wages than on employment rates among undocumented immigrants.

The stylized facts support the hypothesis that any negative effect was primarily on earnings rather than on employment. New immigrants accounted for all net national job growth between 2000 and early 2004; the number of native born and established foreign born workers declined during this period, in contrast (Sum, Fogg, and Khatiwada 2004). Most of these new immigrant workers were Hispanic males. At the same time, median income among households headed by non-citizens fell by \$2,000 between 2002 and 2003 (compared with a \$135 increase for native households). Median income for households headed by non-citizens also fell from 2001 to 2002, both absolutely and relative to other households (U.S. Census Bureau 2003, 2004).

The supply of new immigrant labor—especially undocumented—also may have changed after 9/11. First, some Hispanic immigrants may have fled the U.S. after the attacks. The Mexican government estimates that about 350,000 Mexicans returned home in the two months after 9/11 (Robertson 2002). According to Passel (2005b), the annual flow of unauthorized migrants may have been slightly smaller after 2000 than during the late 1990s but remained extremely high. This conclusion is supported by U.S. Department of Homeland Security data on apprehensions of illegal aliens along the Southwest border. As the year-over-year changes in Figure 1 show, the start of the decline in apprehensions actually predates both the recession (which began in March 2001) and 9/11. Importantly, the drop in apprehensions was not due to a change in enforcement effort. Although the number of border patrol agents did drop slightly following 9/11 as officers were deployed to the largely understaffed Canadian border,

enforcement along the Mexican border regained lost ground beginning in late 2002.

Apprehensions increased sharply earlier that year.

The changes in border enforcement may also have affected the supply of undocumented labor among illegal aliens already present in the U.S. Increases in border enforcement are associated with less circular migration because undocumented immigrants are reluctant to risk returning home and then being unable to reenter the U.S. (Reyes 2004). The net effect of 9/11 on the number of undocumented workers is thus impossible to ascertain.

The series of legal reforms and broader enforcement of immigration laws mentioned in the Introduction also affected the market for immigrant workers during this time. These tougher laws likely reduced both demand and supply of undocumented workers. The USA Patriot Act, Enhanced Border Security Act, Homeland Security Act and Aviation Transportation and Security Act were all passed in the aftermath of 9/11. The Patriot Act gave greater powers to immigration authorities, curbed the rights of non-citizens who were detained to judicial review, and required more record keeping and reporting by financial institutions. States such as Virginia, West Virginia, Florida, and Utah began requiring proof of legal residence for issuance of state id's and driver's licenses. The Enhanced Border Security Act required enhanced background checks for visa applicants both at home and abroad. Resultant visa processing backlogs resulted in a dramatic drop in tourist and business travel to the U.S. The Homeland Security Act divided the INS into three separate entities, separating the service side from the enforcement function of the immigration service. Airport security personnel became federal agents. Background and security checks proliferated and many office buildings began requiring workers and visitors to present identification to gain entry.

Changes in the demand and supply of undocumented workers following 9/11 were likely confounded by the effects of the recession. According to the NBER Business Cycle Dating Committee, the recession started in March 2001 and ended in November that year. Despite the November end date, the job market remained sluggish until at least mid-2003. The lack of job opportunities almost certainly also affected the demand and supply of undocumented workers. Our analysis takes this into account in two ways. We control for economic conditions explicitly by including two state-level indicators of economic activity similar to the national ones that the NBER Business Cycle Dating Committee utilizes, and we compare the change in labor market outcomes for recent Hispanic immigrants to several groups also affected by the recession.<sup>2</sup>

## **Data**

The data we use are from the Current Population Survey (CPS) monthly outgoing rotation group files for 1999-2003, excluding the month of September 2001. This study focuses on men in order to avoid problems with labor force participation, which is more of an issue for women, and because immigrant women's labor force participation behavior differs markedly from that of native women (Schoeni 1998). The sample used here includes only men aged 18-39 who have at most a high school diploma. We do not include older individuals since the majority of undocumented men are under age 40 (Passel 2005a). We include men as young as age 18 because most Hispanic immigrants this age are in the labor force; only 9 percent of 18-24 year-old male Hispanic immigrants are enrolled in school full time and not working, according to the CPS.<sup>3</sup> We only include men who do not report having any post-secondary education because

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<sup>2</sup> There is some evidence that the effect of the business cycle differs across racial and ethnic groups (e.g., DeFreitas 1991; Reimers 2000). We control for differential effects of the business cycle by interacting state-level controls with the treatment dummy, as explained in the text below.

<sup>3</sup> We therefore did not use current enrollment status to select the sample.

most Hispanic immigrants have relatively little education; less than 18 percent of male Hispanic immigrants aged 18-39 report having any education beyond the high school level. In addition, any effect of 9/11 is likely to be concentrated among less-educated immigrants because undocumented immigrants, who have much lower education levels than legal immigrants, compose a larger fraction of the pool of less-educated immigrants.<sup>4</sup>

Since 1994, the monthly CPS has asked about place of birth, citizenship status, and the year that foreign-born individuals came to the U.S. Only individuals who report being born in a Latin American country and not being U.S. citizens at birth (because of parental citizenship) are included as Hispanic immigrants here. The majority (70 percent) of the immigrant sample are from Mexico, followed by 7 percent from El Salvador.

Part of the analysis distinguishes between immigrants who are relatively recent arrivals in the U.S. and those who have been in the U.S. for a long period of time. We divide immigrants into those present about 4 or fewer years in the U.S., those present approximately 5-10 years, and those in the U.S. for more than 10 years. Because the CPS reports year of entry in intervals, these categories are not exact; for the 2000 and 2002 survey years, the most recent immigrants arrived within the last 3 years and the least recent over 11 years ago. It should also be noted that the number of years in the U.S. is based on reported year of entry, but it is not clear whether immigrants reported the year they entered the U.S. to stay or when they first came to the U.S. The data may therefore underestimate total years of residence in the U.S. The analysis compares

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<sup>4</sup> Surveys of undocumented Mexican immigrants in the U.S. suggest that only 6 to 15 percent (depending on the year of entry) of males have 12 or more years of education (Orrenius and Zavodny 2005). Passel (2005b) reports that about three-quarters of unauthorized adult immigrants have at most a high school education.

Hispanic immigrants across the three arrival groups and also compares them to two groups of natives: non-Hispanic whites and Hispanics, who can be of any race.<sup>5</sup>

The hypothesis underlying our comparison of immigrants by years of residence in the U.S. is that years of residence proxies for legal status and other factors likely to affect how immigrants' labor market outcomes changed after 9/11. The CPS does not ask whether the foreign-born are legally present in the U.S. or their visa status, just whether immigrants are naturalized citizens or not. We assume that more recent immigrants (who are not naturalized citizens) are more likely to lack legal documents whereas those present in the U.S. for a longer time are more likely to be legal permanent residents or U.S. citizens. Unpublished estimates by Jeffrey Passel suggest that about 62 percent of the undocumented population present in the U.S. in March 2003 entered the U.S. between 1995 and 2003; 22 percent during the period 1990-1994; and about 15 percent in 1989 or earlier.<sup>6</sup> As discussed above, we posit that illegal immigrants—and therefore more recent immigrants since a larger fraction of them are illegal—were more adversely affected by 9/11. Shorter length of residence in the U.S. is also likely to be associated with less social capital and other attributes that would mitigate any negative effects of 9/11 on labor market outcomes.

An important issue for this study is whether the CPS includes undocumented Hispanic immigrants. Illegal aliens may be reluctant to complete a survey conducted by the U.S. government even though they are told that the answers are confidential and the survey can be administered in Spanish. But demographic research suggests illegal immigrants are in the CPS

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<sup>5</sup> Hispanic immigrants can also be of any race. We do not use respondents' answer to the Hispanic ethnicity question to determine whether they are Hispanic, only their country of birth. About 5 percent of immigrants from Latin America do not report being of Hispanic origin. The results are robust to dropping these immigrants from the sample.

<sup>6</sup> Passel (2005) provides similar statistics for March 2004. In the 1999-2003 CPSs, about 3 percent of Hispanic immigrants who arrived in the U.S. less than 5 years ago report being U.S. citizens, compared with 7 percent of those who arrived 5-10 years ago and 33 percent of those who arrived more than 10 years ago.

since the number of immigrants enumerated by the survey (and by the decennial Census, upon which the CPS weights are based) exceeds estimates of the number of the foreign-born legally present in the U.S., particularly in certain groups consistent with the profile of undocumented immigrants (e.g., young adult males from Latin American countries).<sup>7</sup> As a result, researchers use the CPS to estimate the number of undocumented immigrants; they first calculate the total number of foreign born (based on estimates from the CPS and Census), subtract naturalized citizens and the estimated number of immigrants and non-immigrants who are legally present (based in part on other data sources such as the Department of Homeland Security), and adjust for undercounting (e.g., Passel 2004, 2005a,b; Passel et al. 2004). This methodology suggests that the CPS does contain illegal aliens, although they are almost certainly underrepresented in the survey. Estimates of the CPS undercount change over time. In the late 1990s, for example, the CPS probably missed between one-quarter and one-third of illegal immigrants (Passel and Fix 2001). Post-2000, the undercount is thought to be much improved, with the CPS covering about the same share of the illegal immigrant population—about 90 percent—as the 2000 Census (Passel, Van Hook, and Bean 2004).

We examine four measures of labor market outcomes: employment, hours worked last week given employment (i.e., not including individuals with zero hours), hourly earnings, and weekly earnings. For salaried workers, hourly earnings are calculated by dividing weekly earnings by usual weekly hours. Both measures of earnings are deflated using the monthly consumer price index for urban workers (CPI-U, with 1982-84=100). The regressions are estimated using the natural log of real hourly and weekly earnings.<sup>8</sup>

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<sup>7</sup> Groups are based on age, sex, country of birth, period of entry, and state of residence (see Passel, Van Hook, and Bean 2004).

Hispanic immigrants are more likely to work than natives but have lower earnings. As the sample means in the first row of Table 1 show, Hispanic immigrants had higher employment rates than white, non-Hispanic and Hispanic natives both before and after September 2001. Among those employed, Hispanic immigrants worked fewer hours on average than white, non-Hispanic natives but more than Hispanic natives. Hispanic immigrants had lower earnings than the comparison groups both before and after September 2001. Employment rates were lower post-9/11 for all three groups (and average hours lower for Hispanic immigrants and white, non-Hispanic natives), while real hourly earnings were higher.

The sample means suggest little relative decline in Hispanic immigrants' relative labor market outcomes after September 2001. They experienced less of a decline in employment rates than either group of natives and also experienced a larger gain in average hourly earnings than white, non-Hispanic natives. Average hours worked among employed Hispanic immigrants did decline more than among Hispanic natives, however, and the increase in average hourly earnings was also smaller among the foreign born than among Hispanic natives.

Among Hispanic immigrants, employment, hours worked, and earnings tend to increase with years of residence in the U.S., as the sample means in Table 2 indicate. Employment rates and hours were lower among all three duration groups after September 2001, with the losses not significantly different across the groups. Average hourly earnings rose after 9/11 for Hispanic immigrants who have been in the U.S. for at least 5 years; the gain among the most recent immigrants, in contrast, is not statistically significant. The sample means thus suggest that any adverse effects of 9/11 were concentrated on the earnings of the most recent immigrants relative to their more experienced compatriots.

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<sup>8</sup> We only include individuals with real hourly earnings above \$1 per hour and below \$100 per hour. The results are qualitatively similar (with larger coefficients in absolute magnitude) if we instead drop observations in the top and

The next section describes the econometric methodology we use to examine how Hispanic immigrants' job prospects changed relative to natives and previous Hispanic immigrants after 9/11 when controlling for observable characteristics and the business cycle.

## Methods

We use a difference-in-differences (DD) method to estimate the effect of 9/11 on Hispanic immigrants' relative labor force outcomes. The method compares the change in Hispanic immigrants' outcomes after September 2001 with the change in outcomes for a comparison group. As noted above, we use white, non-Hispanic natives and Hispanic natives as comparison groups. We also do comparisons among Hispanic immigrants by length of residence in the U.S.

The DD method requires relatively few identifying assumptions. The methodology is essentially a before and after comparison of an affected, or "treatment," group's outcomes with the change in outcomes among an unaffected control group. The key identifying assumption is that there is no factor other than the event under investigation—in this study, 9/11—that causes the treatment group's outcomes to change differently than the control group's outcomes. The main other factor likely to influence labor market outcomes is the recession that occurred from March until November 2001. As discussed below, we include controls for the business cycle.

The basic ordinary least squares regression model we estimate for all of the outcomes is

$$Y_{ist} = \alpha + \beta_1 \text{Sept11}_t + \beta_2 \text{Immig}_i + \beta_3 \text{Sept11}_t * \text{Immig}_i + \gamma \text{Demog}_i + \delta_1 \text{BusCycle}_{st} + \delta_2 \text{Immig}_i * \text{BusCycle}_{st} + \sigma S_s + \tau T_t + \varepsilon_{ist} ,$$

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bottom five percent of the hourly earnings distribution.

where  $Y_{ist}$  is a measure of labor market outcomes for individual  $i$ , who lives in state  $s$  and is surveyed at time  $t$ . The dummy variable  $Sept11_t$  is equal to one if an observation is after September 11, 2001.  $Immig_i$  is a dummy variable equal to one for an immigrant in the treatment group. The coefficient on the interaction of the two dummy variables,  $\beta_3$ , measures the average change in labor market outcomes after 9/11 for the treatment group relative to the control group and therefore is the coefficient of interest and is presented in the tables that report regression results.

We control for several measures of individuals' demographic characteristics in the vector  $Demog_i$ . The regressions include linear variables for age and its square and indicator variables for not having a high school diploma or equivalent, for being married, and for living in an urban area. They also include an indicator variable for being a U.S. citizen and a linear variable measuring years of residence in the U.S. (calculated using the midpoint of the interval for year of arrival); these variables are equal to one and zero, respectively, for natives.

The regressions control for business cycle conditions with state-level measures of real personal income per capita and the employment rate (among persons age 16 and older). Personal income is reported quarterly by the Bureau of Economic Analysis while the employment data are reported monthly by the Bureau of Labor Statistics.<sup>9</sup> We use these variables as proxies for the two primary variables used by the NBER to determine expansions and contractions: payroll employment and real personal income.<sup>10</sup> The two business cycle variables are interacted with the treatment group dummy variable to control for the possibility that cyclical factors affect that group differently than the comparison group. All regressions also include state and month fixed

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<sup>9</sup> We used annual population estimates from the Census Bureau. We deflated personal income using the CPI-U.

<sup>10</sup> We do not use unemployment rates because they are a lagging indicator of the business cycle.

effects,  $S_s$  and  $T_t$ , respectively. Standard errors are White-Huber corrected for heteroscedasticity and clustered on treatment group status before and after September 2001.

## **Results**

The regression results generally do not indicate that 9/11 had a negative impact on the employment and earnings of male Hispanic immigrants as a whole. Rather, they suggest that some groups of Hispanic immigrants benefited at the cost of others. In particular, recent immigrants appear to have experienced adverse effects while those present in the U.S. for at least 5 years may have actually experienced an improvement in some labor market outcomes relative to white, non-Hispanic natives after 9/11.

Hispanic immigrants overall experienced few declines in labor market outcomes relative to white, non-Hispanic natives after 9/11, as the results in the top panel of Table 3 show. Employment rose among Hispanic immigrants as a whole compared with white, non-Hispanic natives, with the relative increase concentrated among those present in the U.S. at least 10 years. Relative average hourly earnings rose by about 3.6 percent among Hispanic immigrants present in the U.S. for at least 5 years (columns 2 and 3, row 3). The significant negative effects were concentrated among the most recent Hispanic immigrants, whose relative hourly earnings fell by about 2 percent (column 4, row 3). The most recent and the most experienced immigrants also experienced a relative drop in hours after 9/11. For the most experienced immigrants, the drop in hours was counterbalanced by the relative gains in hourly earnings, but the most recent immigrants experienced a relative decline in weekly earnings as well (column 4, row 4).

Hispanic immigrants as a whole experienced more adverse effects when compared with Hispanic natives. As the results in the bottom panel of Table 3 indicate, employment among

immigrants rose relative to comparable Hispanic natives; the relative increase occurred among immigrants present in the U.S. for at least 5 years but not among more recent arrivals (row 5). Hours fell after 9/11 among Hispanic immigrants, with the relative decline occurring among all three arrival groups (row 6). Average hourly earnings also fell by almost 6 percent among the most recent immigrants compared with Hispanic natives. Immigrants present in the U.S. for less than 5 years and for at least 10 years experienced significant relative losses in weekly earnings as well.

This finding that Hispanic immigrants experienced fewer gains—and often larger losses—when compared with Hispanic natives than with white, non-Hispanic natives is somewhat surprising given that Hispanic natives also might have been adversely affected by the post-9/11 changes in the labor market. One might expect that some employers lump all Hispanics together, causing some Hispanic natives to experience an increase in discrimination after 9/11. Other research has found evidence of such “spillover” effects. Research on the effects of the 1986 Immigration Reform and Control Act (IRCA), which included a legalization program and created penalties for firms that knowingly employ undocumented workers, indicates that wages and employment among Hispanics in general fell after IRCA went into effect (Bansak 2001; Lowell, Teachman, and Jing 1995). In our work, however, DD regressions with Hispanic natives as the treatment group and white, non-Hispanic natives as the control group suggest that Hispanic natives actually experienced a relative gain in hours and hourly earnings after 9/11 (not shown). This suggests that Hispanic natives did not experience an increase in labor market discrimination after 9/11.<sup>11</sup>

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<sup>11</sup> It is possible that, given the growth in the Hispanic population and the increased diversity of people of Hispanic descent, that employers have become more sophisticated and can now better distinguish between Hispanics who are foreign versus native-born. Native Hispanics’ language ability, educational background, and access to authentic identification cards likely help employers make this distinction. Moreover, if Hispanic natives are closer substitutes

The comparisons to natives in Table 3 suggest that Hispanic immigrants who arrived in the U.S. within about the last 5 years experienced more adverse effects than their compatriots who had been in the U.S. longer. To further investigate this finding, we estimated the DD regressions using only the sample of Hispanic immigrants and comparing immigrants by length of residence in the U.S. The results are shown in Table 4. The column headings indicate first the treatment group and second the comparison group; for example, the first column reports results for immigrants who arrived within the last 5 years relative to immigrants who arrived over 10 years ago.

The comparisons across immigrants by duration of residence in the U.S. confirm that the most recent immigrants experienced adverse effects after 9/11. Employment and hourly earnings declined significantly among immigrants who arrived in the U.S. within the last 5 years relative to immigrants present in the U.S. longer. For example, recent immigrants experienced a decline in earnings of about 4.7 percent after 9/11 relative to immigrants who had been in the U.S. for over 10 years and of almost 6 percent compared with immigrants who had been in the U.S. for about 5-10 years (columns 1 and 2, row 3). The most recent immigrants also experienced a loss in hours compared with those present in the U.S. 5-10 years (column 2, row 2). The results comparing immigrants who arrived about 5-10 years ago with those who had been in the U.S. longer are mixed, with immigrants who arrived about 5-10 years ago experiencing a relative gain in hours but not in employment or hourly earnings (column 3).

The regression results for the other coefficients in the DD regressions are as expected. In results not shown here, Hispanic immigrants are more likely to be employed and work more hours than natives but have lower average earnings. Among immigrants, employment and hours

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for undocumented immigrants than white non-Hispanic natives, a decline in the demand for undocumented workers might lead to relatively higher demand for Hispanic natives.

of work are negatively associated with length of residence in the U.S. while hourly earnings are positively associated with years of U.S. residence and with U.S. citizenship. Employment, hours, and earnings all increase with age but at a decreasing rate. Men who did not complete high school or are single have worse labor market outcomes than high school graduates or married men, respectively. The business cycle controls and their interactions with the treatment indicator variable are jointly significantly different from zero below the 10 percent level in most of the regressions.

### *Robustness*

The results in the tables include all immigrants from Latin America, not just those from Mexico, which is the main source of Latin American immigrants and undocumented immigrants. When the regressions are estimated using just immigrants born in Mexico instead of all Latin American countries, the results are similar to those shown in the tables but tend to have slightly lower significance levels, reflecting the decrease in the sample size. The results are also robust to including country of origin controls for the foreign born.

We tried including interactions between the 9/11 dummy variable and the variables measuring years of U.S. residence and U.S. citizenship in the regressions in order to examine whether the return to U.S. experience or citizenship changed after September 11<sup>th</sup>. The results do not consistently indicate that the return to years of residence in the U.S. or to U.S. citizenship changed significantly after 9/11 among Hispanic immigrants. We suspect our failure to find significant effects may be due in part to measurement error in these variables; immigrants may have lied about their citizenship status, particularly after 9/11, and problems with the variable reporting the year of arrival in the U.S. are well known (e.g., Redstone and Massey 2004).

## **Conclusion**

This paper used CPS data to examine post-9/11 changes in the employment, hours, and earnings of Hispanic immigrants, particularly those likely to be illegally present in the U.S. Although we cannot directly observe illegal immigrants in the CPS data, we use recent male immigrants from Latin America aged 18-39 who have at most completed high school to proxy for this population. We postulate that 9/11 created an environment that discouraged employers from hiring potentially undocumented workers, which should lead to worse labor market outcomes in the data for the group of immigrants most similar to illegal aliens—recent male non-citizen immigrants from Mexico and the rest of Latin America. We use several comparison groups to control for confounding changes in the demand and supply of labor during this time.

The empirical evidence suggests that recent Latin American immigrants experienced employment and earnings declines as a result of 9/11. While Hispanic immigrants with longer residence in the U.S. (and Hispanic natives) had significant employment and earnings gains after 9/11 relative to white, non-Hispanic natives, recent Hispanic immigrants did not experience such an improvement. Recent Hispanic immigrants, in contrast, had real hourly earnings declines of about 2 percent relative to white, non-Hispanic natives, 6 percent relative to Hispanic natives, and 5 percent relative to Hispanic immigrants who have been here at least 5 years. In addition, recent Hispanic immigrants experienced a decline in employment relative to their compatriots with more experience in the U.S. The evidence thus suggests the post-9/11 changes in the labor market and, more broadly, the national security environment, have adversely affected the job prospects of recent male undocumented immigrants from Latin America.

Worsened job prospects for Hispanic immigrants have important implications for the immigrant inflow. The decline in the relative labor market outcomes of recent male immigrants from Latin America—if it is sustained over time and holding all other factors constant—should lead to a decline in the probability of migrating to the U.S. in the future. However, this may or may not translate into fewer Hispanic immigrants, illegal or otherwise, depending on how other push and pull factors play out. If economic conditions worsen in source countries, then this slight worsening of relative labor market outcomes for Hispanic immigrants in the U.S. will not have a big negative impact on migrant inflows. Moreover, the average level of real hourly earnings for recent Hispanic immigrants was actually higher in the post-9/11 period than during the prior two and a half years.

Such absolute changes, together with economic conditions in the home country, may play a larger role in migration decisions than labor market outcomes relative to natives or earlier immigrants. Indeed, there appears to have been only a small reduction in the flow of undocumented immigrants in the post-2000 period (Passel 2005b) even as their relative labor market outcomes appear to have worsened. Security measures which indirectly address undocumented immigration may be more likely to increase earnings inequality and other relative measures of well-being *within* the U.S., such as earnings assimilation, than they are to affect future migrant flows *to* the U.S. Given that illegal immigrants have little access to public services, it may be preferable to implement immigration reform directly by either enforcing immigration laws or legalizing immigrants who are already here or both. Simply making conditions worse for illegal immigrants already present may exacerbate the social problems inherent to growing income inequality. Assessing the full impact of post-9/11 changes in immigration law enforcement is an area for future research.

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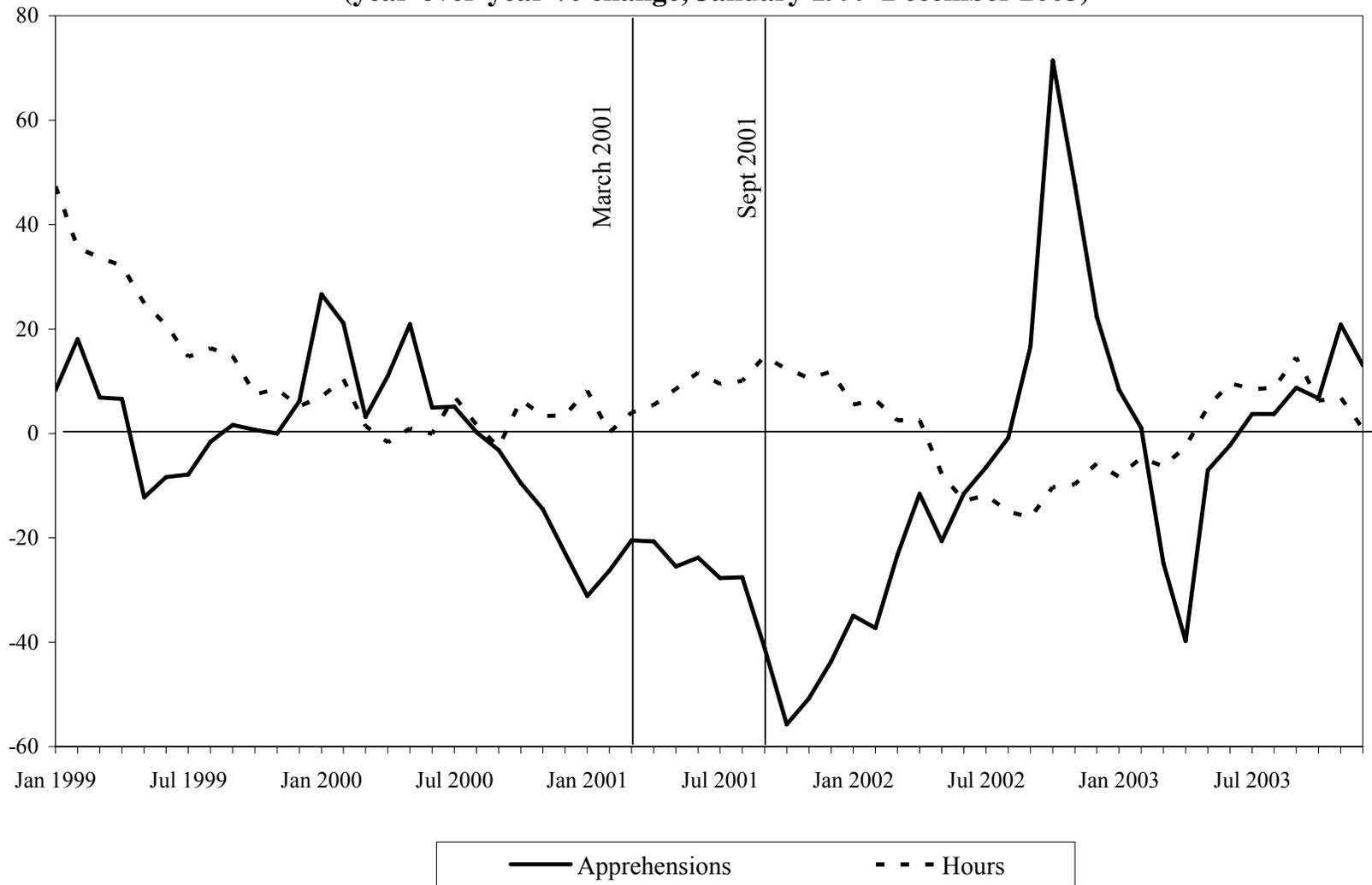
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**Figure 1. Southwest Border Linewatch Apprehensions and Hours**  
(year-over-year % change, January 1999-December 2003)



**Table 1**  
**Descriptive Statistics for Immigrants and Natives, Pre- and Post-9/11**

	Hispanic Immigrants		White, Non-Hispanic Natives		Hispanic Natives	
	Pre	Post	Pre	Post	Pre	Post
Employment	0.89 (0.31) [8609]	0.88 (0.33) [8880]	0.83 (0.37) [42932]	0.78 (0.41) [38681]	0.76 (0.42) [5256]	0.71 (0.45) [5011]
Hours worked	40.8 (9.2) [7558]	39.9 (9.1) [7648]	41.5 (12.7) [34786]	40.5 (12.5) [29732]	39.7 (11.0) [3911]	39.4 (10.0) [3519]
Hourly earnings	5.52 (2.75) [7232]	5.73 (2.57) [7313]	7.27 (3.75) [31610]	7.34 (3.84) [26913]	6.22 (3.07) [3749]	6.71 (3.34) [3336]
Weekly earnings	230.58 (125.82) [7232]	233.09 (115.20) [7313]	314.31 (187.23) [31609]	313.17 (194.07) [26913]	260.64 (156.24) [3749]	276.93 (160.55) [3336]

Note: Shown are weighted sample means, with standard deviations in parentheses and sample size in brackets. Hourly and weekly earnings are deflated using the monthly CPI-U (1982-84=100). Data are from the CPS monthly outgoing rotation groups for 1999-2003, excluding September 2001, and only include men who have at most a high school diploma and are aged 18-39.

**Table 2**  
**Descriptive Statistics for Immigrants by Length of Residence in U.S., Pre- and Post-9/11**

	>10 Years		5-10 Years		<5 Years	
	Pre	Post	Pre	Post	Pre	Post
Employment	0.90 (0.30) [4230]	0.88 (0.32) [3999]	0.90 (0.30) [2825]	0.88 (0.32) [3177]	0.88 (0.33) [1554]	0.84 (0.37) [1704]
Hours worked	41.2 (9.2) [3716]	40.3 (9.0) [3442]	40.5 (9.1) [2497]	39.7 (8.9) [2784]	40.4 (9.1) [1345]	39.4 (9.4) [1422]
Hourly earnings	6.01 (3.02) [3511]	6.30 (2.87) [3270]	5.15 (2.59) [2407]	5.42 (2.35) [2661]	4.86 (1.93) [1314]	4.93 (1.73) [1382]
Weekly earnings	254.79 (139.00) [3511]	258.04 (130.59) [3270]	212.41 (109.71) [2407]	219.46 (98.04) [2661]	199.13 (101.63) [1314]	198.49 (89.73) [1382]

Note: Shown are weighted sample means, with standard deviations in parentheses and sample size in brackets. Hourly and weekly earnings are deflated using the monthly CPI-U (1982-84=100). Data are from the CPS monthly outgoing rotation groups for 1999-2003, excluding September 2001, and only include men born in Latin America (and not U.S. citizens by birth) who have at most a high school diploma and are aged 18-39.

**Table 3**  
**Difference-in-Differences Estimates of the Effect of 9/11 on Hispanic Immigrants**  
**Compared with Natives**

Outcome	Length of Residence in U.S.			
	All	>10 Years	5-10 Years	<5 Years
<u>Compared with White, Non-Hispanic Natives</u>				
Employment	0.010* (0.003)	0.018* (0.005)	0.008 <sup>†</sup> (0.003)	-0.015 (0.007)
Hours worked	-0.169 (0.077)	-0.214* (0.053)	-0.067 (0.074)	-0.332 <sup>†</sup> (0.128)
Hourly earnings	0.026** (0.001)	0.036** (0.002)	0.036** (0.001)	-0.020* (0.004)
Weekly earnings	0.019* (0.003)	0.017** (0.003)	0.040** (0.002)	-0.013** (0.002)
<u>Compared with Hispanic Natives</u>				
Employment	0.023** (0.002)	0.033** (0.005)	0.022** (0.003)	0.001 (0.007)
Hours worked	-0.587** (0.062)	-0.723** (0.071)	-0.443* (0.095)	-0.737* (0.165)
Hourly earnings	-0.012 (0.005)	-0.003 (0.007)	-0.002 (0.007)	-0.058** (0.006)
Weekly earnings	-0.032* (0.006)	-0.038* (0.008)	-0.013 (0.006)	-0.057** (0.005)

\*\* p<0.01; \* p<0.05; <sup>†</sup> p<0.1

Note: Shown are OLS estimates of the change in immigrants' labor outcomes relative to the indicated comparison group of natives from January 1999-August 2001 to October 2001-December 2003. Each coefficient is from a separate regression. All regressions also control for demographic characteristics, state-level business cycle conditions, state and month (see text for details). Hourly and weekly earnings are measured as the log of real earnings. Robust clustered standard errors are in parentheses.

**Table 4**  
**Difference-in-Differences Estimates of the Effect of 9/11 within Hispanic Immigrants, by**  
**Years of Residence in U.S.**

Outcome	<5 vs >10	<5 vs 5-10	5-10 vs >10
Employment	-0.028* (0.006)	-0.020* (0.006)	-0.008 (0.004)
Hours worked	0.026 (0.091)	-0.200* (0.051)	0.368** (0.045)
Hourly earnings	-0.047** (0.003)	-0.056** (0.004)	0.005 (0.003)
Weekly earnings	-0.011 <sup>†</sup> (0.003)	-0.046** (0.002)	0.028** (0.002)

\*\* p<0.01; \* p<0.05; <sup>†</sup> p<0.1

Note: Shown are OLS estimates of the change in the first indicated group of immigrants' labor outcomes relative to the second indicated group of immigrants from January 1999-August 2001 to October 2001-December 2003. Each coefficient is from a separate regression. All regressions also control for demographic characteristics, state-level business cycle conditions, state and month (see text for details). Hourly and weekly earnings are measured as the log of real earnings. Robust clustered standard errors are in parentheses.